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UNITED STATES SPECIAL OPERATIONS COMMAND 21.2 Small Business Innovation Research (SBIR) Phase I Proposal Submission Instructions

Introduction:

The United States Special Operations Command (USSOCOM) seeks small businesses with strong research and development capabilities to pursue and commercialize technologies needed by Special Operations Forces through the Department of Defense (DoD) SBIR 21.2 Program Broad Agency Announcement (BAA). A thorough reading of the “Department of Defense Small Business Innovation Research (SBIR) Program, SBIR 21.2 Program Broad Agency Announcement (BAA)” prior to reading these USSOCOM instructions is highly recommended. These USSOCOM instructions explain certain unique aspects of the USSOCOM SBIR Program that differ from the DoD Announcement and its instructions. The Offeror is responsible for ensuring that their proposal complies with the requirements in the most current version of these instructions. Prior to submitting your proposal, please review the latest version of these instructions as they are subject to change before the submission deadline.

These USSOCOM instructions explain USSOCOM specific aspects that differ from the DoD Announcement and its instructions.

Table 1: Consolidated SBIR Topic Information

Topic	Technical Volume (Vol 2)	Additional Info. (Vol 5)	Period of Performance	Award Amount	Contract Type
<i>Phase I</i> SOCOM212-001	Not to exceed 5 pages	15 page PowerPoint	Not to exceed 6 months	NTE \$150,000.00	Firm-Fixed-Price
<i>Phase I</i> SOCOM212-002	Not to exceed 5 pages	15 page PowerPoint	Not to exceed 6 months	NTE \$150,000.00	Firm-Fixed-Price

Contract Awards:

SBIR awards for topic SOCOM212-001 may be made under the authority of National Defense Authorization Act for Fiscal Year 2020, Section 851, PILOT PROGRAM FOR DEVELOPMENT OF TECHNOLOGY-ENHANCED CAPABILITIES WITH PARTNERSHIP INTERMEDIARIES. USSOCOM may use a partnership intermediary to award SBIR contracts and agreements to small business concerns. SOCOM212-001 SBIR contract awards may be done through SOWWERX and result in a commercial contract between the firm and DEFENSEWERX. The Government will evaluate and select for award all SOCOM212-001 proposals. The Government will award all SBIR contracts for SOCOM212-002.

Proposal Submission:

Firms must upload their proposals to the Defense SBIR/STTR Innovation Portal Proposal Submissions at <https://www.dodsbirsttr.mil/submissions/login> . Additional USSOCOM specific submission requirements for each volume are detailed below.

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Technical Inquiries:

During the Pre-release Period of the DoD SBIR 21.2 Program BAA, all questions must be submitted in writing either by e-mail to sbir@socom.mil or to the online DSIP Topic Q&A. All questions and answers submitted to DSIP Topic Q&A will be released to the general public. USSOCOM does not allow inquirers to talk directly or communicate in any other manner to the topic authors (differs from Section 4.13.c. of the DoD SBIR 21.2 Program BAA instructions). **All inquiries must include the topic number in the subject line of the e-mail.**

During the Open Period, follow the instructions in section 4.13.d of the DoD SBIR 21.2 Program BAA Instructions.

Site visits will not be permitted during the Pre-release and Open Periods of the DoD SBIR 21.2 Program BAA.

Proposal Volumes:

Volume 1: Cover Page is created as part of the DOD Proposal Submissions process.

Volume 2: Technical Volume

The Technical Volume page count will include all the required items under section 5.4.c of the DoD SBIR 21.2 instructions and shall not exceed 5 pages. Offerors shall also submit a slide deck not to exceed 15 PowerPoint slides in Volume 5 and there are no set format requirements for the two documents. It is recommended (but not required) that more detailed information is included in the technical volume and higher level information is included in the slide deck. The Cost Volume (Volume 3) for the Topics will cover the total effort.

The identification of foreign national involvement in a USSOCOM SBIR topic is needed to determine if a firm is ineligible for award on a USSOCOM topic that falls within the parameters of the United States Munitions List, Part 121 of the International Traffic in Arms Regulation (ITAR). A firm employing a foreign national(s) (as defined in paragraph 3.7 entitled “Foreign Nationals” of the DoD SBIR 21.2 Announcement) to work on a USSOCOM ITAR topic must possess an export license to receive a SBIR Phase I contract.

Volume 3: Cost Volume

Companies submitting a Phase I proposal under this BAA must complete the USSOCOM Phase I Cost excel spreadsheet, with a base not to exceed \$150,000.00.

A minimum of two-thirds of the research and/or analytical work in Phase I must be conducted by the proposing firm. The percentage of work is measured by both direct and indirect costs as a percentage of the total contract cost.

Volume 4: Company Commercialization Report

CCR is required to be submitted with proposals in response to USSOCOM 21.2 SBIR topics. Please refer to the DoD 21.2 SBIR BAA for full details.

Volume 5: Supporting Documents

Potential Offerors shall submit a slide deck not to exceed 15 PowerPoint slides, and Section K in this volume.

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Volume 6: Fraud, Waste and Abuse Training

Fraud, Waste and Abuse (FWA) training is required for Phase I and Direct to Phase II proposals. Please refer to the DoD 21.2 SBIR BAA for full details.

Phase I proposals shall NOT include:

- 1) Any travel for Government meetings. All meetings with the Government will be conducted via electronic media.
- 2) Government furnished property or equipment.
- 3) Priced or Unpriced Options.
- 4) A Technical Volume exceeding five pages. USSOCOM will only evaluate the first five pages of the Technical Volume. Additional pages will not be considered or evaluated.
- 5) “Basic Research” (or “Fundamental Research”) defined as a “Systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and/or observable facts without specific applications toward processes or products in mind.”
- 6) Human or animal studies.
- 7) Discretionary Technical and Business Assistance

Phase I Evaluations:

USSOCOM evaluates Phase I proposals using the evaluation criteria specified in section 6.0 of the DoD 21.2 SBIR Announcement with the following exceptions:

1. Proposals missing technical volume, 2/3 rule, cost volume, or slide deck will not be evaluated or those that exceed the maximum price allowed as per Table 1 of this instructions. Those proposals will be considered non-responsive.
2. The technical evaluation will utilize the Evaluation Criteria provided in Section 6.0 of the DoD SBIR 21.2 BAA. The Technical Volume and slide deck will be reviewed holistically. The technical evaluation is performed in two parts:

Part I: The evaluation of the Technical Volume will utilize the Evaluation Criteria provided in Section 6.0 of the DoD SBIR 21.2 BAA. Once the evaluations are complete, all Offerors will be notified as to whether they were selected to present the slide deck portion of their proposal.

Part II: Selected Offerors will receive an invitation to present their slide deck (30 minute presentation time / 30 minute question and answer) to the USSOCOM technical evaluation team, using a virtual teleconference. This will be a technical presentation of the proposed solution and the key personnel listed in the proposal should be conducting the presentation and responding to the questions of the evaluation team. This presentation is NOT intended for business development personnel, it is purely technical. Selected Offerors shall restrict their presentations to only the 15 page PowerPoint presentation that were submitted with their proposals. There will be no changes or updates to the presentations from what was proposed. All selected firms will be required to provide a teleconference information for the presentation. This presentation will complete the evaluation of the proposal the panel did against the criteria listed under Section 6.0 of the DoD SBIR 21.2 BAA. Notifications of selection/non-selection for Phase I award will be completed within a timely manner.

3. The Cost Volume (Volume 3) evaluation:
For this Phase I, the award amount is set at a not to exceed (NTE), a technical evaluation of the proposal cost will be completed to assess price fair and reasonableness. Proposals above the set NTE for the effort will not be considered for award. The team will assess the technical approach

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presented for the effort based on the number of labor hours by labor categories, the key personnel level of involvement, materials, subcontractors and consultants (scope of work, expertise, participation and proposed effort), and other direct cost as proposed.

Additionally, input on technical aspects of the proposals may be solicited by USSOCOM from non-Government consultants and advisors who are bound by appropriate non-disclosure requirements. Non-Government personnel will not establish final assessments of risk, rate, or rank Offeror's proposals. These advisors are expressly prohibited from competing for USSOCOM SBIR awards. All administrative support contractors, consultants, and advisors having access to any proprietary data will certify that they will not disclose any information pertaining to this announcement, including any submission, the identity of any submitters, or any other information relative to this announcement; and shall certify that they have no financial interest in any submission. Submissions and information received in response to this announcement constitutes the Offeror's permission to disclose that information to administrative support contractors and non-Government consultants and advisors.

Selection Notifications:

For topic SOCOM212-001 the Defensewerx (also known as SOFWERX) will notify each Offeror whether they have been selected for award. The e-mail notification will be sent to the Corporate Official (Business) identified by the Offeror.

For topic SOCOM212-002, the Government Contracting Officer will notify each Offeror by e-mail whether they have been selected for award. The e-mail notification will be sent to the Corporate Official (Business) identified by the Offeror.

Informal Feedback:

A non-selected Offeror can make a written request to their respective Contracting Officer, within 30 calendar days of receipt of notification of non-selection, for informal feedback. The respective Contracting Officer will provide informal feedback in response to an Offeror's written request rather than a debriefing as specified in paragraph 4.10, entitled "Debriefing," of the DoD SBIR 21.2 Announcement.

USSOCOM SBIR Program Point of Contact:

Inquiries concerning the USSOCOM SBIR Program and these proposal preparation instructions should be addressed to sbir@socom.mil.

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SOCOM 21.2 SBIR PHASE I TOPIC INDEX

SOCOM212-001	Man-Portable Starlink System
SOCOM212-002	Small Form Factor UHF SATCOM Antenna

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SOCOM212-001 TITLE: Man-Portable Starlink System

RT&L FOCUS AREA(S): Microelectronics; Network Command, Control and Communications

TECHNOLOGY AREA(S): Electronics; Information Systems; Materials; Space Platform

The technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), 22 CFR Parts 120-130, which controls the export and import of defense-related material and services, including export of sensitive technical data, or the Export Administration Regulation (EAR), 15 CFR Parts 730-774, which controls dual use items. Offerors must disclose any proposed use of foreign nationals (FNs), their country(ies) of origin, the type of visa or work permit possessed, and the statement of work (SOW) tasks intended for accomplishment by the FN(s) in accordance with section 3.5 of the Announcement. Offerors are advised foreign nationals proposed to perform on this topic may be restricted due to the technical data under US Export Control Laws.

OBJECTIVE: The objective of this topic is to develop applied research toward an innovative capability to develop a small form factor system that enables reliable access to the Starlink commercial internet system.

DESCRIPTION: As a part of this feasibility study, the proposers shall address all viable overall system design options with respective specifications on the key system attributes. The current commercial Starlink system uses a 1m dish and requires significant amounts of power to operate. The key system attributes for the desired system are that it must be man portable and battery powered. The system should be designed to be as small as possible while providing enough link margin to achieve reliable internet connection over the Starlink constellation. The antenna and modem need to be miniaturized along with being integrated with a small commercial off the shelf Software Defined Radio (e.g. Epiq Z2) for the RF link.

PHASE I: Conduct a feasibility study to assess what is in the art of the possible that satisfies the requirements specified in the above paragraphs entitled “Objective” and “Description.”

The objective of this USSOCOM Phase I SBIR effort is to conduct and document the results of a thorough feasibility study (“Technology Readiness Level 3”) to investigate what is in the art of the possible within the given trade space that will satisfy a needed technology. The feasibility study should investigate all options that meet or exceed the minimum performance parameters specified in this write up. It should also address the risks and potential payoffs of the innovative technology options that are investigated and recommend the option that best achieves the objective of this technology pursuit. The funds obligated on the resulting Phase I SBIR contracts are to be used for the sole purpose of conducting a thorough feasibility study using scientific experiments and laboratory studies as necessary. Operational prototypes will not be developed with USSOCOM SBIR funds during Phase I feasibility studies. Operational prototypes developed with other than SBIR funds that are provided at the end of Phase I feasibility studies will not be considered in deciding what firm(s) will be selected for Phase II.

PHASE II: Develop, install, and demonstrate a prototype system determined to be the most feasible solution during the Phase I feasibility study on a man portable Starlink system.

PHASE III DUAL USE APPLICATIONS: This system could be used in a broad range of military applications where the need for a man portable Starlink system is required for operation of a communication or data exfiltration system.

REFERENCES:

1. Special Operations Tactical Communications, Defense Media Network, 27 May 2020, Andrew White; <https://www.defensemedianetwork.com/stories/special-operations-tactical-communications/>.

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KEYWORDS: antenna; UHF; small; tactical; commercial, space; starlink

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SOCOM212-002 TITLE: Small Form Factor UHF SATCOM Antenna

RT&L FOCUS AREA(S): Microelectronics; Network Command, Control and Communications

TECHNOLOGY AREA(S): Electronics; Information System; Materials; Space Platform

The technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), 22 CFR Parts 120-130, which controls the export and import of defense-related material and services, including export of sensitive technical data, or the Export Administration Regulation (EAR), 15 CFR Parts 730-774, which controls dual use items. Offerors must disclose any proposed use of foreign nationals (FNs), their country(ies) of origin, the type of visa or work permit possessed, and the statement of work (SOW) tasks intended for accomplishment by the FN(s) in accordance with section 3.5 of the Announcement. Offerors are advised foreign nationals proposed to perform on this topic may be restricted due to the technical data under US Export Control Laws.

OBJECTIVE: The objective of this topic is to develop applied research toward an innovative capability to develop a small form factor antenna that enables Ultra High Frequency (UHF) satellite communications for small handheld devices.

DESCRIPTION: As a part of this feasibility study, the proposers shall address all viable overall system design options with respective specifications on the key system attributes. The key system attributes for the antenna are that it must be tuned for transmitting and receiving a frequency range of 225 to 400 megahertz (Mhz). It also must be right-hand circularly polarized (RHCP). The antenna must be able to accept output power of a handheld transmitter of up to 37 decibel-milliwatts (dbm) (5 Watts). SubMiniature version A (SMA) type connectors are preferred for connecting the antenna to a handheld transceiver. A flexible patch type antenna is desired; however, the smallest size possible antenna is most desirable.

PHASE I: Conduct a feasibility study to assess what is in the art of the possible that satisfies the requirements specified in the above paragraphs entitled "Objective" and "Description."

The objective of this USSOCOM Phase I SBIR effort is to conduct and document the results of a thorough feasibility study ("Technology Readiness Level 3") to investigate what is in the art of the possible within the given trade space that will satisfy a needed technology. The feasibility study should investigate all options that meet or exceed the minimum performance parameters specified in this write up. It should also address the risks and potential payoffs of the innovative technology options that are investigated and recommend the option that best achieves the objective of this technology pursuit. The funds obligated on the resulting Phase I SBIR contracts are to be used for the sole purpose of conducting a thorough feasibility study using scientific experiments and laboratory studies as necessary. Operational prototypes will not be developed with USSOCOM SBIR funds during Phase I feasibility studies. Operational prototypes developed with other than SBIR funds that are provided at the end of Phase I feasibility studies will not be considered in deciding what firm(s) will be selected for Phase II.

PHASE II: Develop, install, and demonstrate a prototype system determined to be the most feasible solution during the Phase I feasibility study on a small form factor UHF SATCOM antenna.

PHASE III DUAL USE APPLICATIONS: This system could be used in a broad range of military applications where the need for a small form factor UHF antenna is required for operation of a communication or data exfiltration system.

REFERENCES:

1. Special Operations Tactical Communications, Defense Media Network, 27 May 2020, Andrew White; <https://www.defensemedianetwork.com/stories/special-operations-tactical-communications/>.

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KEYWORDS: antenna; UHF; small; tactical